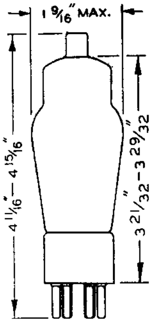
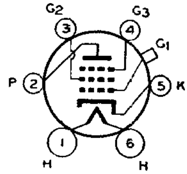


RCA-6C6

TRIPLE-GRID DETECTOR AMPLIFIER



The 6C6 is a triple-grid tube of the heater-cathode type recommended for service as a biased detector in radio receivers designed for its characteristics. This tube is capable of delivering a large audio-frequency output voltage with relatively small input voltage. Significant among its electrical features are its sharp plate current "cut-off" with respect to grid voltage. The 6C6 is constructed with an internal shield connected to the cathode within the tube.

CHARACTERISTICS

Heater Voltage (A. C. or D. C.)	6.3	Volts
Heater Current	0.3	Ampere
Grid-Plate Capacitance (With shield-can)	0.007 *max.*	μμf
Input Capacitance	5.0	μμf
Output Capacitance	6.5	μμf
Bulb		ST-12
Cap		Small Metal
Base		Small 6-Pin

Other characteristics of this type are the same as for type 6J7.

INSTALLATION AND APPLICATION

The base pins of the 6C6 fit the standard six-contact socket which may be installed to hold the tube in any position.

For heater operation and cathode connection, refer to INSTALLATION for type 6A8.

The screen voltage may be obtained from a potentiometer or bleeder circuit across the B-supply source. Due to the screen-current characteristics of the 6C6, the use of a resistor in series with the high-voltage supply may be employed for obtaining the screen voltage provided the cathode-resistor method of bias control is used. This method, however, is not recommended if the high-voltage B-supply exceeds 250 volts.

Complete shielding of detector circuits employing the 6C6 is generally necessary, since considerable voltage at carrier frequency is usually present in the plate circuit even though the latter is by-passed with a low impedance condenser. Two-section filters in the plate circuit are frequently necessary to prevent radio-frequency feed-back to the input of the detector.

In receivers employing a built-in loudspeaker, acoustic shielding may be necessary to prevent microphonic feed-back when a strong radio-frequency carrier voltage is present on the tube electrodes. It should be noted also that condenser plates may cause an audio howl due to mechanical feed-back from the speaker.

The application of this type is similar to that of type 6J7.

As an audio-frequency amplifier triode, the 6C6 should have its screen and suppressor connected to the plate. Operating conditions for triode service in transformer- or impedance-coupled circuits are: Plate voltage, 250 volts; grid voltage, −8 volts; and plate current, 7 milliamperes, approximate. Operating conditions as a resistance-coupled A-F amplifier are given in the Resistance-Coupled A-F Amplifier Section.

A plate family of curves is given under type 6J7.